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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Ozawa

Serial No. 09/302,397

Examiner Armstrong, A.

Filed April 30, 1999

Art Unit 2641

For SPEECH CODING APPARATUS AND SPEECH DECODING APPARATUS

Assistant Commissioner of Patents  
Washington, D.C. 20231**OFFICIAL**RECEIVED  
M/9/02

## SECOND SUPPLEMENT TO AMENDMENT FILED DECEMBER 3, 2001

On December 3, 2001, an amendment was filed in the U.S. Patent and Trademark Office. A copy of the amendment and date stamped receipt is attached hereto.

The undersigned is not aware of any action being taken in the above-identified application prior to filing of this Supplement. Further, this supplement is being filed by facsimile to assure timely consideration by the Examiner of both the amendment and this supplement.

The undersigned has recently become aware of additional points of distinction between the claimed invention and the cited references, and wishes these points to be considered by the Examiner in addition to the points raised in the amendment of December 3, 2001. If any additional extension of time are required for considering this supplement, provisional petition therefore is hereby made. If any additional fees are required to gain entry of this supplement, the Commissioner is authorized to charge attorney's deposit account 50-2041 (Whitham, Curtis & Christofferson P.C.).

An important feature of the present invention claimed in claim 1 is that the speech coding apparatus comprises a sound source quantization section which has a codebook for representing a sound source signal by a combination of a plurality of

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10:48AM FROM-Whitham, Curtis & Christofferson, P.C.

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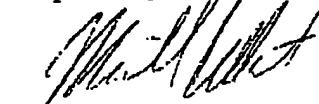
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non-zero pulses and collectively quantizing amplitudes or polarities of the pulses when an output from the discrimination section indicates a predetermined mode, and searches combinations of code vectors stored in the codebook and a plurality of shift amounts used to shift positions of the pulses so as to output a combination of a code vector and shift amount which minimizes distortion relative to input speech.

U.S. Patent 5,704,003 to Kleijn et al., in contrast, has a characteristic feature that residual signals are coded by a time shift. That is, as disclosed in column 6, after line 14, the best value for time shift T which can minimize an error output between a signal  $r(n-T)$  obtained by shifting the residual signal  $r(n)$  by T and a delayed residual signal  $r(-D(n))$  is required, whereby parameter required in coding is selected.

As such, Kleijn does not disclose or suggest the foregoing characteristic feature of the invention, and, the claims should therefore be deemed allowable over the prior art of record.

Respectfully submitted,



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I certify that this two page Supplement to the Amendment filed December 3, 2001, and twenty four page copy of the Amendment filed December 3, 2001, and one page copy of the date stamped receipt from the U.S. Patent and Trademark Office, and the change of correspondence address and petition for an extension of time, are being transmitted by facsimile to the USPTO facsimile having fax number (703) 872-9313      December 29, 2001.



Michael E. Whitham